



**United States Department of the Interior
Bureau of Land Management**

Eastern States
Southeastern States Field Office
411 Briarwood Drive, Suite 404
Jackson, Mississippi 39206
<http://www.es.blm.gov>

**Determination of NEPA Adequacy (DNA)
DNA-020-2015-24**

Project Name: Lowe Federal 15-2 #1

Date: November 19, 2015

Worksheet
Documentation of Land Use Plan Conformance and NEPA Adequacy (DNA)
U.S. Department of the Interior Bureau of Land Management

Note: This Worksheet is consistent with the policies stated in the Instruction Memorandum entitled, *Documentation of Land Use Plan Conformance and National Environmental Policy Act (NEPA) Adequacy*. Transmitting this Worksheet and the Guidelines for using the DNA Worksheet are located in Appendix 8 - 161 H-1790-1 of The *National Environmental Policy Act Handbook* (<http://www.blm.gov/wy/st/en/info/NEPA.html>).

A. Proposed Action

The proposed action is the permitting of one Application for Permit to Drill (APD): Lowe Federal 15-2 #1 submitted by PAR Minerals Corporation located on private property being drilled directionally into federal minerals under the United States Department of Agriculture (USDA) Forest Service's De Soto National Forest. The Proposed APD is located in T.1S, R.14W, Section 15 of Pear River County, Mississippi. The federal lease is MSES 56783.

Connected actions will include timber removal and well pad construction as follows:

The proposed well pad is estimated to be approximately 1.43 acres of disturbance for 250 feet by 250 feet square pad. Access to the well pad will be by utilizing an existing log road. The APD is an oil well with facilities to be located on the proposed well pad. Facilities include two 400 BBL oil storage tanks and one 400 BBL produced water storage tank.

The APD proposed by PAR Minerals Corporation is subject to USDA Forest Service lease stipulations/notices plus the Bureau of Land Management (BLM) surface conditions and best management practices (BMP). Surface Use Conditions of Approval (SUOA) are attached to the BLM's DNA and are incorporated into the APD.

B. Land Use Plan (LUP) Conformance

LUP Name: USDA Forest Service, Final Environmental Impact Statement for the Revised Land and Resource Management Plan, National Forests in Mississippi

Date Approved: July 3, 2014

LUP Name: BLM Jackson Field Office, Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS) for Public Lands and Minerals located in Alabama and Mississippi

Date Approved: January 26, 2009

Oil and gas surface operations and leasing analysis for the National Forests in Mississippi was prepared by the USDA Forest Service in the Final Environmental Impact Statement for the Revised Land and Resource Management Plan signed July 2014. All National Forests in Mississippi lands, although geographically separated from each other, cover approximately 1.1 million acres and are managed under one LUP adopted in July 2014, which is listed above.

Oil and gas leasing and development for federally owned minerals not managed by USDA Forest Service located in Alabama and Mississippi is covered by BLM's RMP/EIS for Public Lands and Minerals located in Alabama and Mississippi. The BLM's RMP/EIS states that approximately 300,000 acres of non-USDA Forest Service, federally owned minerals are available for oil & gas leasing and development. The LUP was adopted in January 2009, which is listed above.

C. Identify applicable NEPA documents and other related documents that cover the proposed action. (List by name and date all applicable documents that cover the proposed action such as Environmental Assessments (EA), Best Management Practices (BMP), Memorandum of Understanding (MOU), and etc.)

- (1). EA Name: National Forests in Mississippi, Lands Available for Oil and Gas Leasing Environmental Assessment
Date Approved: August 6, 2010
- (2). Report: Biological Assessment prepared for PAR Minerals Corporation, Lowe Federal 15-2 #1 by PAC Services, LLC (FWS concurred in usage of this report for the approval of Lowe Federal 15-2 #1)
Date: August 4, 2014
- (3). Memo: Fish and Wildlife Service (FWS) letter of concurrence for proposed PAR Minerals' Lowe Federal 15-2 #1
Date: August 6, 2014
- (4). Memo: Mississippi Department of Archives and History letter of concurrence for proposed PAR Minerals' Lowe Federal 15-2 #1, MDAH Project Log #08-091-15, Pearl River County
Date: September 11, 2015
- (5). MOU Name: Memorandum of Understanding between United States Department of the Interior, Bureau of Land Management and United States Department of Agriculture, Forest Service Concerning Oil and Gas Leasing and Operations. Forest Service Agreement No. 06-SU-11132428-052

Date Approved: April 14, 2006

(6). BLM BMPs: Surface Operating Standards and Guidelines
for Oil and Gas Exploration and Development, Gold Book

Date: 2006

D. NEPA Adequacy Criteria

1. Is the current proposed action substantially the same action (or is a part of that action) as previously analyzed? Is the current proposed action located at a site specifically analyzed in an existing document?

The proposed action analysis is covered by the USDA Forest Service and the BLM. USDA Forest Service manages and approves surface disturbance activities on lands under their management. BLM manages and approves surface disturbance activities on lands that are non-USDA Forest Service where federal mineral estate is being developed. The proposed well is drilled from private surface/private minerals but directionally drilled into federal minerals under the De Soto National Forest of Mississippi. Both agencies have LUPs that cover oil & gas leasing and development. An EA was approved by the USDA Forest Service with BLM as a cooperating agency for mineral leasing and development covering all lands and minerals of the Mississippi National Forests on August 6, 2010.

2. Is the range of alternatives analyzed in the existing NEPA document(s) appropriate with respect to the current proposed action, given current environmental concerns, interests, and resource values?

The range of alternatives analyzed is appropriate and still relevant in respect to the current proposed action. A wide range of environmental concerns and resource values surrounding the proposed APD was extensively addressed in the USDA Forest Service's EA cited above. Also, the USDA Forest Service of Mississippi has an updated and recent LUP dated July 2014. BLM's LUP is current and still applicable dated January 2009.

3. Is the existing analysis valid in light of any new information or circumstances?

The existing analysis contained in the USDA Forest Service's EA dated August 6, 2010 is current. The USDA Forest Service of Mississippi's LUP is current and addresses oil and gas leasing and development. The LUP is dated July 2014. BLM's LUP is current and addresses oil and gas leasing and development. There is no new information or circumstances that have arisen to render the previous analyses inadequate. Site specific analysis from surveys and on-sites can find new issues/concerns. The proposed well site did have a concern with gopher tortoise burrows but through mitigation with operator and FWS, the concern was minimized or poses no further concern. A SUCOA will apply to the APD for mitigation approved by BLM, FWS, and the operator for gopher tortoise.

4. Do the methodology and analytical approach used in the existing NEPA document(s) continue to be appropriate for the current proposed action?

The methodology and analytical approach used is up-to-date and appropriate to use for the proposed APD submitted by PAR Minerals Corporation.

5. Are the direct and indirect impacts of the current proposed action substantially unchanged from those identified in the existing NEPA document(s)? Does the existing NEPA document analyze site-specific impacts related to the current proposed action?

The direct and indirect impacts of the proposed action have not changed from those analyzed in the NEPA documents cited above. The previous NEPA analysis and documents cited above address the same impacts for the proposed action under USDA Forest Service lands, split-estate lands, and fee/fee lands.

6. Are the cumulative impacts that would result from implementation of the current proposed action substantially unchanged from those analyzed in the existing NEPA document(s)?

No new cumulative impacts would result beyond those previously addressed in the NEPA documents cited above.

7. Are the public involvement and interagency review associated with existing NEPA document(s) adequate for the current proposed action?

The public involvement and review process for the NEPA documents cited above is adequate for the proposed action.

E. Interdisciplinary Analysis: Identify those team members conducting or participating in the NEPA analysis and preparation of this worksheet.

Prepared by: Brian Kennedy Date: 11/19/15

Brian Kennedy
Physical Scientist

Reviewed by: Victoria P. Craft Date: 11/19/15

Victoria Craft
Assistant District Manager Resources

Reviewed by: Elizabeth Ivy Date: 11/19/15

Elizabeth Ivy
Assistant District Manager Minerals

Conclusion

Based on the review documented above along with attached BLM's SUCOAs for the Lowe Federal 15-2 #1 APD, I conclude that this proposal conforms to the BLM and USDA Forest Service's applicable LUPs and EA. The National Environmental Policy Act (NEPA) documentation fully covers the proposed action and constitutes the Bureau of Land Management (BLM) compliance with the requirements of NEPA.

Note: The signed Conclusion on this Worksheet is part of an interim step in the BLM's internal decision process and does not constitute an appealable decision. However, the lease, permit, or other authorization based on this DNA is subject to protest or appeal under 43 CFR Part 4 and the program-specific regulations.

Approved by: Bruce Dawson Date: 11-19-2015
Bruce Dawson
Southeastern States District Manager

Bureau of Land Management's
Surface Use Conditions of Approval (SUCOA)

**Section 15, T. 1 S., R. 14 W., St. Stephens Meridian, Pearl River County, Mississippi
on BLM Lease MSES-56783**

Well: Lowe Federal 15-2 #1

1. If previously unknown sites of religious activities and previously unknown Native American burials are discovered during any ground disturbing activity or any part of this action, these activities will cease so that consultation with appropriate Native American groups will take place. The Authorizing Officer will tell the operator within five (5) working days when or if work may proceed.
2. The operator will avoid known cultural/historic sites during all construction and will be held responsible for informing all persons working at the drill site that they are subject to prosecution for knowingly disturbing human remains, historic or archaeological sites and for collecting artifacts (Archaeological Resources Protection Act of 1979, as amended [16 United States Code 470] [43 CFR 7.4]). If human remains, historic or archaeological materials are uncovered during construction, the operator will immediately stop work that might further disturb such materials and contact the BLM, the landowner, and the State Historic Preservation Officer (SHPO) (36 CFR 800.11(b)(3)). Within five working days, the BLM, in consultation with the landowner and the SHPO, will inform the operator as to options available and how/if operation in the area of the human remains, historic or archaeological material may proceed. In addition, if a previously unknown site is discovered, consultation with the Advisory Council on Historic Preservation and Native American groups may also be conducted before operations may proceed.
3. The operator is required to take necessary measures to ensure that the final graded slopes are stabilized and to prevent the movement of soil from the pad area for the life of the project. Because of the short term nature of the project and to allow for complete decomposition, only all organic fibers including both the filler and web will be used to allow for complete decomposition. This could include the use of natural matting (jute, coconut fiber, etc.) on steeper slopes and/or use of silt fence at the toe of the slope, or additional mulching. No plastic or inorganic netting will be permitted. Silt fences and other sediment control objects must be maintained throughout the construction and initial phases of drilling and production. After seeding of natural grasses has taken hold to stop erosion of sediments off the pad location, such sediment control devices can be removed.
4. Any construction activities should, by using preventative measures, avoid drainage of fluids, sediments, and/or other contaminants from the well pad into any nearby water bodies or natural drainage areas off of the well pad location.

5. Equipment, fuels, and other chemicals will be properly stored to minimize the potential for spills to enter surface waters. Secondary containment will be provided for all containers stored on site.
6. For safety and protection to the surface and surrounding area, operator must keep the area clean of trash and other debris as much as possible to avoid damaging or contaminating the human and environmental health surrounding the well pad location.
7. No aerial application of herbicides or pesticides will be permitted. Any ground application of herbicides or other pesticides, sterilants, or adjuvants within 150 feet of listed species or habitat will require site-specific control measures developed in coordination or formal consultation with USFWS.
8. To prevent birds and bats from entering or nesting in or on open vent stack equipment, open vent stack equipment, such as heater-treaters, separators, and dehydrator units, will be designed and constructed to prevent birds and bats from entering or nesting in or on such units and, to the extent practical, to discourage birds from perching on the stacks. Installing cone-shaped mesh covers on all open vents is one suggested method. Flat mesh covers are not expected to discourage perching and will not be acceptable.
9. Gopher Tortoise conditions for proposed well:
 1. No vehicles or surface disturbance will be permitted within 25 feet of the individual burrows, including active and abandoned burrows.
 2. The entire pad and entrance to pad will be fenced to exclude tortoises, as per agreement between BLM, FWS, and PAR Minerals. The tortoise exclusion fence will be installed prior to any other surface disturbing activities. Tortoise exclusion fencing will be monitored during the construction to ensure that the integrity of the fencing is maintained.
 3. (Advisement) A biologist should be onsite the day(s) the fencing is installed to ensure that tortoise are not inadvertently "fenced in".
 4. Vehicles will be excluded from an area north of the pad entrance to protect foraging habitat.
 5. Construction crew will be alerted to the presence of gopher tortoise and advised of need to avoid "take" situations.
10. All power-lines must be built to protect raptors and other migratory birds, including bald eagles, from accidental electrocution, using methods detailed by the Avian Power Line Interaction Committee (APLIC 2006)
11. Any reserve pit that is not closed within 10 days after a well is completed and that contains water must be netted or covered with floating balls, or another method must be used to exclude migratory birds.

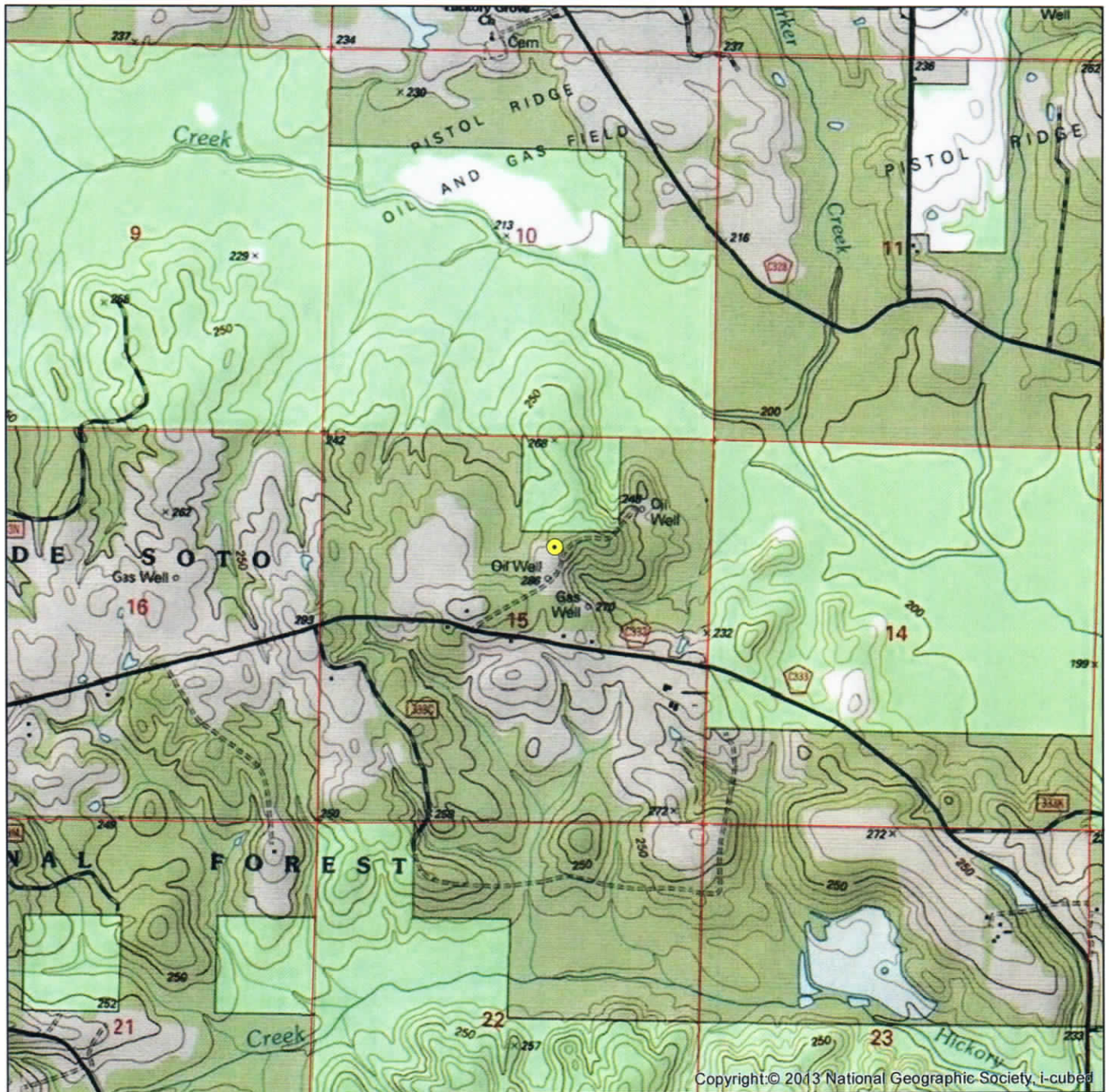
12. Disturbed lands will be re-contoured back to conform to existing undisturbed topography. No depressions will be left that trap water or form ponds. The operator will be responsible for re-contouring of any subsidence areas that may develop from after closing of the pit.

13. To discourage the spread of invasive, non-native plants, BLM advises that native cover plants in seeding mixtures be used during reclamation activities. Final seed mixtures will be formulated in consultation with the private landowner. Post-construction monitoring for cogon grass and other invasive plant species should be conducted to ensure early detection and control. If invasive species are found, the proper control techniques should be used to either eradicate the species from the area or minimize its spread to other areas. If cogon grass is found on site, equipment should be washed before exiting the site to prevent the spread of this highly invasive species to other locations.

Before interim and final reclamation of the well site, PAR Minerals will contact BLM for advisement of native seed mixtures to be planted with landowner coordination. BLM will also require post-construction monitoring for invasive species.

14. Phased reclamation plans will be submitted to BLM for approval prior to abandonment via a Notice of Intent (NOI) Sundry Notice. Individual facilities, such as well locations, pipelines, discharge points, impoundments, etc. need to be addressed in these plans as they are no longer needed. BLM will inspect those reclamation actions submitted by the operator to ensure that the operator has met all reclamation goals of the BLM and surface owner. A Notice of Intent to Abandon and a Subsequent Report of Abandonment must be submitted for abandonment approval by BLM. Final Abandonment Notice will be filed at the end awaiting BLM's approval of final reclamation. After BLM's approval of final reclamation, operator can be relinquished of its obligations and responsibilities to the well site.

Federal Oil & Gas Well
 Company: PAR Minerals, Corp
 Well Name: Lowe Federal 15-2 #1
 Pearl River County, MS
 T. 15S, R. 14W, Sec. 15; St. Stephens Meridian



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Legend

● Well Location

Lowe Federal 15-2 #1:
 SL - 1470' FNL & 2144' FEL
 BL - 1260' FNL & 2146' FEL

Lat: 30.963790
 Long: -89.381270

0 1,000 2,000 4,000 6,000 8,000 Feet

1:24,000

U.S. Department of the Interior
 Bureau of Land Management
 Southeastern States District Office
 Jackson, Mississippi



This map contains portions of the following USGS 1:24,000
 Topographic Quadrangle: Hillsdale

No warranty is made by the Bureau of Land Management as to the accuracy, reliability,
 or completeness of this data for individual use or aggregate use with other data.

MISSISSIPPI DEPARTMENT *of* ARCHIVES AND HISTORY



HISTORIC PRESERVATION
Jim Woodrick, director
PO Box 571, Jackson, MS 39205-0571
601-576-6940 • Fax 601-576-6955
mdah.state.ms.us

September 9, 2015

Mr. Duane Winters
Bureau of Land Management
411 Briarwood Drive, Suite 404
Jackson, Mississippi 39206



RE: Proposed lease of federal minerals in S15, T1S, R14W by FAR Minerals, Corp.,
MDAH Project Log #08-091-15, Pearl River County

Dear Mr. Winters:

We have reviewed your request for a cultural resources assessment, received on August 18, for the above referenced project in accordance with our responsibilities under Section 106 of the National Historic Preservation Act and 36 CFR Part 800. After reviewing the information provided, it is our determination that no cultural resources are likely to be affected. Therefore, we have no objection with the proposed undertaking.

Should there be additional work in connection with the project, or any changes in the scope of work, please let us know in order that we may provide you with appropriate comments in compliance with the above referenced regulations.

If you have any questions, please do not hesitate to contact us at (601) 576-6940.

Sincerely,

A handwritten signature in cursive script that reads "Hal Bell".

Hal Bell
Review and Compliance Assistant

FOR: Greg Williamson
Review and Compliance Officer



Sullivan, John <j35sullivan@blm.gov>

RE: Lowe APD Pearl River Co. MS

1 message

Ian Thompson <ithompson@choctawnation.com>
To: "Sullivan, John" <j35sullivan@blm.gov>

Thu, Sep 10, 2015 at 11:10 AM

The Choctaw Nation of Oklahoma thanks the BLM for consultation on the above-referenced permit application. Pearl River County, MS, is located within the Choctaw homeland. Aboriginal archaeological materials located in and around this project's APE may potentially be culturally affiliated with the Choctaw Nation of Oklahoma.

The Choctaw Nation Historic Preservation Department is not aware of any Choctaw cultural sites in the immediate project area. Based on the results of the provided cultural resources survey report, the Choctaw Nation would concur with a finding of "No Historic Properties Affected". If the BLM becomes aware of human remains or intact archaeological materials being encountered during well construction, we ask that you notify our office as quickly as possible.

Thank you,

Ian Thompson PhD, RPA
THPO, Tribal Archaeologist,
Director, Historic Preservation Dept.
Choctaw Nation of Oklahoma
PO Drawer 1210
Durant, OK 74701
1-800-522-6170 ext. 2216

From: Sullivan, John [mailto:j35sullivan@blm.gov]
Sent: Monday, August 17, 2015 4:16 PM
To: Ian Thompson <ithompson@choctawnation.com>; Lindsey Bilyeu <lbilyeu@choctawnation.com>
Subject: Lowe APD Pearl River Co. MS

If you have any questions please let em know



COUSHATTA TRIBE

OF LOUISIANA

HERITAGE DEPARTMENT

September 9, 2015

John Sullivan
United States Department of the Interior
Bureau of Land Management
Southeastern States District Office
411 Briarwood Drive, Suite 404
Jackson, MS 39206

Subject: 8100 (020) JMS Lowe Federal 15-2 #1

Dear Mr. Sullivan:

The Coushatta Tribe of Louisiana Heritage Department has reviewed the above reference proposed undertaking, and we are in concurrence with your findings of "no historic properties affected".

At this time, I know of no known sacred or ceremonial sites in the immediate area, and do not require further Section 106 consultation on this project. However, if any cultural resources such as, bone, pottery, stone tools, etc., are found subsequently, we may elect to discuss additional mitigation steps, including on-site monitoring. In the event that archaeological properties or human remains are discovered, please stop work and contact us immediately, consistent with Section IX of the Nationwide Programmatic Agreement and applicable laws.

Sincerely,

A handwritten signature in cursive script that reads "Jill Crawford".

Jill Crawford,
Section 106 Coordinator

KOWASSAATON NATHIHILKAS—LET US SPEAK KOASATI



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Mississippi Field Office
6578 Dogwood View Parkway, Suite A
Jackson, Mississippi 39213



August 6, 2015

Ms. Faye Winters
Bureau of Land Management
411 Briarwood Drive, Suite 404
Jackson, Mississippi 39206

Dear Ms. Winters:

The Fish and Wildlife Service (Service) has reviewed the information in your electronic mail dated August 4, 2015, regarding PAR Minerals Corporation's proposed Lowe Federal 15-2 #1 drill pad and well project in Pearl River County, Mississippi. Our comments are submitted in accordance with the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

Based on the information provided in your biological assessment, the Service concurs with your determination that the proposed project "may affect, but is not likely to adversely affect" the gopher tortoise and will have "no effect" on the red-cockaded woodpecker. We concur with the conservation measures outlined in your report and have no additional recommendations for this project.

No further consultation under the ESA is required with this office unless there are changes in the scope or location of the proposed project, or if listed species are discovered during construction.

If you have any questions, please contact David Felder of our office, telephone: (601) 321-1131.

Sincerely,

for Stephen M. Ricks
Field Supervisor
MS Field Office

BIOLOGICAL ASSESSMENT

PAR MINERALS, LLC

**PROPOSED DRILL PAD Lowe
Federal 15-2 No. 1 Well
1507' FNL & 2240' FEL**

T. 1 S., R. 14 W., SECTION
PEARL RIVER COUNTY, MISSISSIPPI

Southeastern States District Office
Bureau of Land Management
Jackson, Mississippi

August 4, 2015

INTRODUCTION

BLM has received an application for permit to drill from PAR Minerals Corporation (PAR) for a well to be drilled from private surface. The well would target adjacent federal minerals administered by the Bureau of Land Management (BLM) that underlie the adjacent DeSoto National Forest. The proposed drill pad, Lowe Federal 15-2 #1, would measure 250-ft by 235-ft. and encompass a total of 1.35 acres. The drill pad would be accessed by an existing 1,545-ft by 30-ft wide gravel road.

This biological assessment is based on a survey and report by Patrick Chubb, of PAC Services. The initial survey was conducted on June 27, 2015. An additional site visit was conducted on July 28, 2015 by the biological contractor, and representatives of BLM and Fish and Wildlife Service.

Project Area

The proposed project is located in T. 1 S., R.14 W., Section 15, in Pearl River County, Mississippi. The project area is located on an upland toe south of Red Creek. The area general appears to have been originally planted as a commercial pine plantation and evidence of ditching remains. Loblolly pine (*Pinus taeda*) dominates the overstory with sweetgum (*Liquidambar styraciflua*) and various oaks, with young longleaf pine (*Pinus palustris*) volunteering at the site. The understory contains yaupon (*Ilex vomitoria*), sweetleaf (*Symplocos tinctoria*), and American holly (*Ilex opaca*). There is very little herbaceous groundcover, except in scattered locations where the canopy is open and along the access road. Heavy pine straw and leaf debris blanket the ground. Chinese privet (*Ligustrum sinense*) is common along forest margins and there is at least one Chinese tallow (*Sapium sebiferum*) on the location.

The immediate pad area has been used for oil and gas development in the past. There is derelict storage tank adjacent to the proposed location and evidence of the original pit location in the southeastern corner of the proposed pad location. Pine regeneration has begun on the proposed pad location, but most trees are estimated to be less than 10 years old.

Special Status Species

Gopher tortoise (*Gopherus polyphemus*) - listed as Threatened.

The project site and adjacent areas were surveyed for gopher tortoise on June 27, 2015. Pedestrian transects were conducted in the project area with a buffer of approximately 150-ft beyond the limits of the proposed pad and 75 feet either side of the centerline of the access road. The proposed pad was surveyed in a grid pattern of transects traversing east-west. The proposed access road/flowline was surveyed by traversing the existing access road from the pad to Thomas School Road. Due to the open character of the habitats, the survey constitutes 100% coverage of the project area.

Three gopher burrows were located during the survey. Two burrows were considered active, one of which showed evidence of current occupation. The third burrow was classified as abandoned. Foraging habitat in the area was limited to scattered opening in the forest canopy and along the access road sufficient to support grasses and forbs.

Red-cockaded woodpecker (*Picoides borealis*) - listed as Endangered

The location is within the range of red-cockaded woodpecker, however the pine stand at the location and surrounding area does not provide suitable nesting habitat and only marginal foraging habitat because of heavy midstory and hardwood components in the overstory. The adjacent DeSoto National Forest actively manages red-cockaded woodpecker populations; however the nearest clusters are over 25 miles away from the project location (Ed Moody, DeSoto NF, personal communication).

Conservation Measures

The following protective measures have been incorporated into the project design to avoid adverse effects to gopher tortoise.

1. The original pad location has been moved south and west to avoid direct impacts to the existing gopher tortoise burrows.
2. No vehicles or surface disturbance will be permitted within 25 feet of the individual burrows, including active and abandoned burrows.
3. The entire pad and entrance road will be fenced to exclude tortoises, as per attached diagram.
4. The tortoise exclusion fence will be installed prior to any other surface disturbing activities.
5. A biologist should be onsite the day(s) the fencing is installed to ensure that tortoise are not inadvertently "fenced in".
6. Vehicles will be excluded from an area north of the pad entrance to protect foraging habitat.
7. Tortoise exclusion fencing will be monitored during the construction to ensure that the integrity of the fencing is maintained.
8. Construction crew will be alerted to the presence of gopher tortoise and advised of need to avoid "take" situations.

Affects Determination

Gopher tortoise – The project has the potential to adversely affect gopher tortoise habitat and individuals, directly through construction related activities, and as a result of future well maintenance activities. The 25' burrow setback for all construction related activities is expected to be sufficient to avoid direct damage to gopher tortoise burrows. Some foraging habitat would be lost as a result of building the 1.35 acre pad, the majority of available foraging habitat is located north and east of the immediate well pad location. .

The installation and maintenance of the tortoise exclusion fence is expected to be sufficient to avoid loss of individual tortoises during construction activities. In addition, the installation of a vehicle barrier fence blocking access to the road north/east of the pad entrance will reduce the potential for tortoises being struck by vehicles and loss of habitat in an open area just east of the proposed pad.

With the implantation of these protective measures, the project is expected to affect, but not adversely affect gopher tortoise.

Red-cockaded woodpecker – The project will not affect red-cockaded woodpecker.

ATTACHMENTS:

Project Vicinity Map

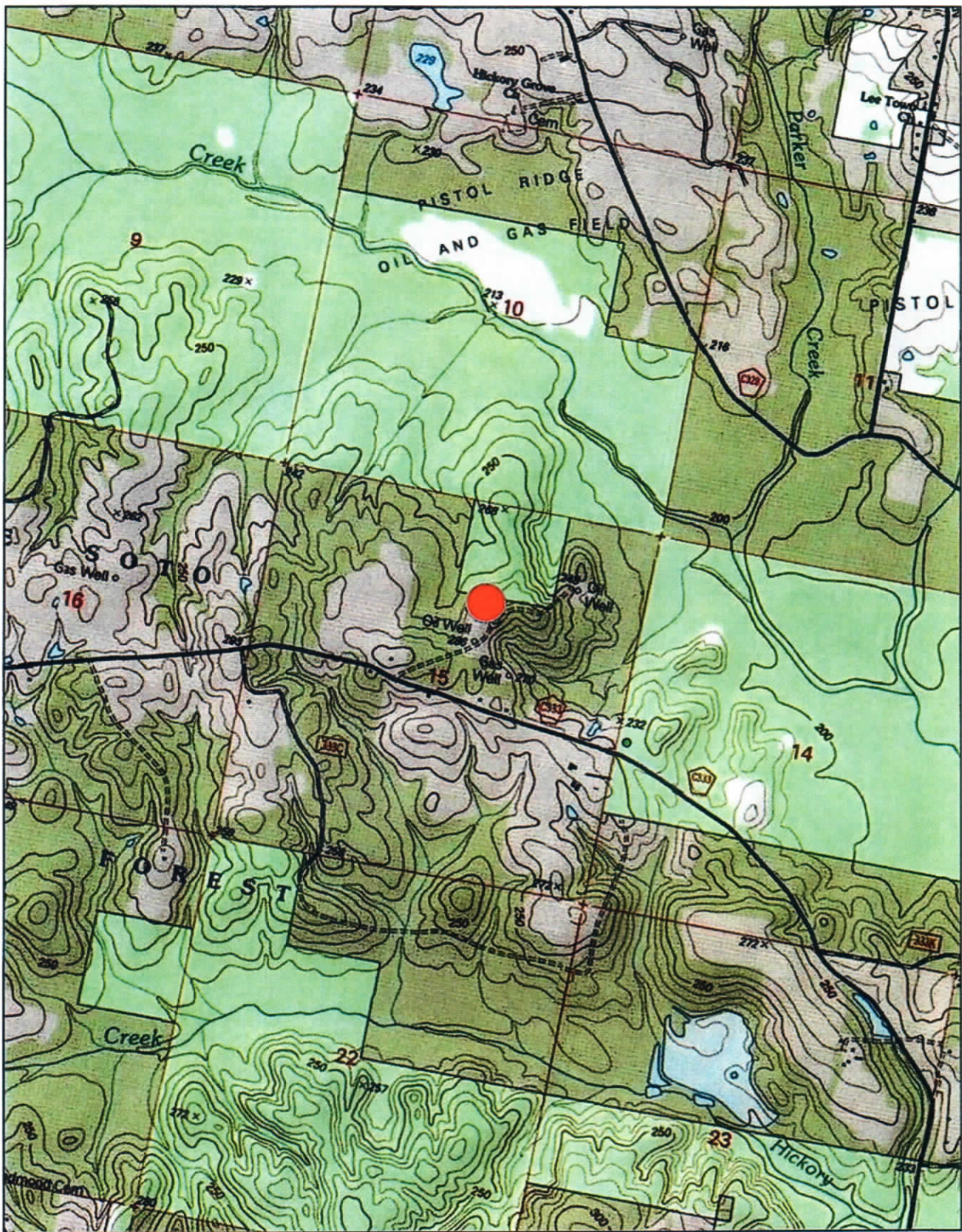
Site Photos

Proposed Site Layout (Lowe Federal 15-2 #1)

Gopher Tortoise Protective Fencing Diagrams

Gopher Tortoise Information Sheet

PAR Minerals Corporation
Lowe Federal 15-2 No. 1 Well
Section 15, T1S, R 14 W
USGS Topo Quad: HILLSDALE
Pearl River County, Mississippi



Prepared by PAC Services, LLC

0 1,200 2,400 4,800 Feet



Figure 1. Typical View of Existing Access Road



Figure 2. Typical View of Habitat within Pad location.



Figure 3. Active Gopher tortoise burrow found along the original proposed north line .



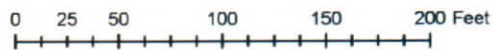
Figure 4. Active burrow found near original south line.

PAR Minerals
 Proposed vs Original Location Lowe federal 15-2 #1
 Pearl River County, Mississippi
 Avoidance & Mitigation Measures

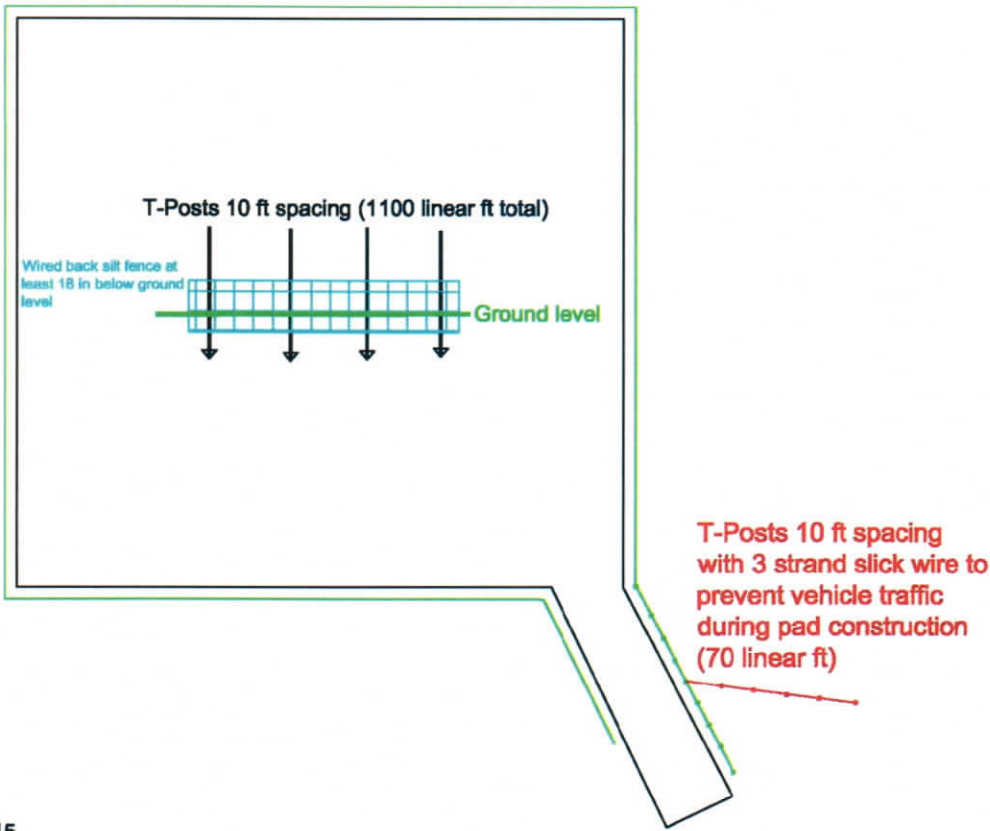


Source: PAR, DigitalGlobe, GeoEye, Earthstar, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroV, GeoEye, AeroV, KRI, KRI, and the GIS User Community

Prepared by PAC Services for PAR Minerals



PAR Mineral - Proposed Location AMM Details
Lowe federal 15-2 #1
Pearl River County, Mississippi



GOPHER TORTOISE 101



THIS IS WHAT ONE LOOKS LIKE. BELOW IS WHAT THEIR BURROW LOOKS LIKE.



Gopher Tortoises are federally protected. Harming, harassing, or killing a tortoise could result in a \$10,000 fine and/or 6 months imprisonment. Be aware of tortoises when along the open grass roadsides and specifically near the east side of the proposed pad. The burrows are flagged, but they can be out and about when you enter the site. They are generally afraid of you as much as you should be of them (on this project). The project area should be fenced off to keep them from falling into the pit. Check under your heavy equipment before mobilizing.

AVOID TORTOISES
CHECK PIT AND PAD DAILY
IF YOU SEE ONE, CONTACT YOUR SUPERVISOR

Information provided by:
PAC SERVICES LLC
Patrick Chubb
228.861.6165